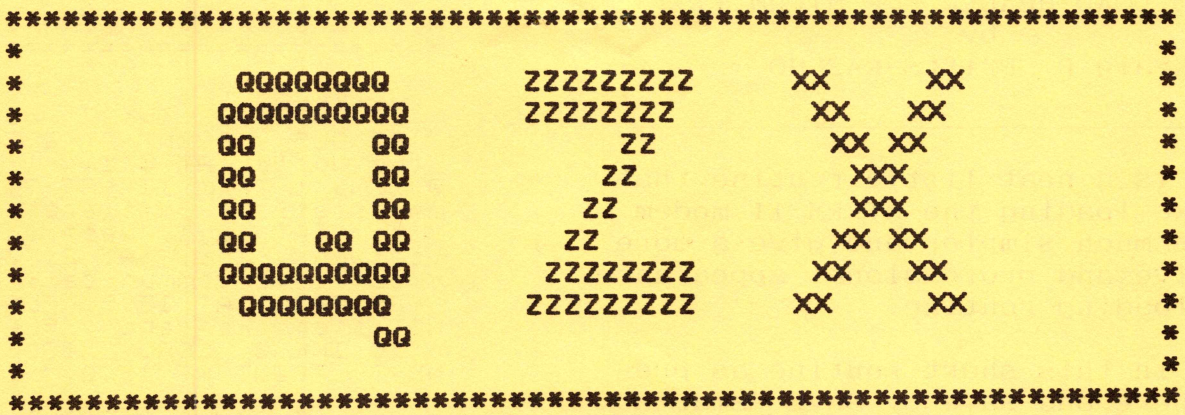

The Journal Covering Amateur Radio & Sinclair Computers
ZX-80; Micro-Ace; ZX81; T/S 1000, 1500, & 2068

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88001

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AUTO-LOAD HEADER FOR MTERM II

by

Kraig D. Pritts-KA2LHO

Here is a neat little routine that will make loading the MTERM II modem software much simpler and give a more attractive and professional appearance to the loading routine.

Type in this short routine as presented here and save by SAVE "smart2" LINE 5. This should be on a blank tape with a little extra room on it so that you can then save the original MTERM II program after it. After this header has been saved mark the ending of the program via tape counter or do not rewind the tape. Then load in the MTERM II software and exit to BASIC from the main menu. Save this program by entering from BASIC the following: SAVE "" CODE 54016,11518.

This should be saved onto the same tape as the header and a few seconds after the header program. After the header program loads you will see the title screen shown below and the computer will automatically load in the modem software. When MTERM II is in, you will be instructed to turn off the tape and press any key to place you in the modem program.

Upon entering this program view the buffer menu and erase the buffer since the header will be stored there otherwise.

To load the entire program from tape you simple type LOAD "smart2". This is certainly much easier to remember than LOAD "" CODE 54016.

If anyone has any questions regarding this or any programs in the Ham Helper Series I can now be accessed by Electronic Mail via CompuServe. My ID is 74676,3320.

Auto Loader for MTERM II Tapes

```
  5 CLEAR
 10 PAPER 0: INK 7: BORDER 0
 20 CLS : PRINT AT 2,7;"Talk to
the World";AT 4,14;"with";AT 6,
9;"Smart Term II";AT 7,2;"Teleco
mmunications Software";AT 10,14;
"from";AT 12,1;"Westridge Commun
ications, Inc.";AT 21,0;"© 1984,
 Westridge Communications"
 25 PRINT AT 15,6; FLASH 1;"Do
NOT stop the tape"; FLASH 0
 30 INK 0: LOAD ""CODE 54016: I
NK 7: PRINT AT 15,0;"
                      "; PRINT AT
 15,9; FLASH 1;"STOP THE TAPE",
FLASH 0;: FOR x=1 TO 5: BEEP .05
,5: BEEP .05,8: NEXT x: PAUSE 50
: PRINT AT 15,3;"Press any key t
o continue": PAUSE 0: PRINT USR
54016
```

Sample Title Screen for MTERM II

```
Talk to the World

with

Smart Term II
Telecommunications Software

from

Westridge Communications, Inc.

Do NOT stop the tape


© 1984, Westridge Communications
```

PROJECT BUDGET

by

Kraig D. Pritts-KA2LHO

Although this program has nothing to do with ham radio, it may be of use to QZX subscribers with interests beyond their radios (my wife says that I have none!). It is with that hope and the challenge set forth by our editor in the February 1985 issue of QZX that this article and program are submitted.

As a high school vocal music teacher, I am responsible for maintaining budgets of various projects not the least of which is the annual school musical production. I have used several budget programs of a commercial nature, but most of them are designed for a household budget and use a 12 month base. Spreadsheet programs for the Sinclair are workable, but they are awkward to set up and often do not provide a satisfactory printout.

PROJECT BUDGET avoids each of these drawbacks and allows you to set up a budget for any project with up to 13 budget areas. Visible to you without a display change is (1) budgeted amount, (2) amount spent, and (3) amount of surplus or deficit in each budget area. Totals for all three columns are also shown on this same screen.

Options of operation include data change, send entire budget display to a TS 2040 printer, or save the program and data onto tape. Extensive use is made of the INKEY$ function throughout for speed and ease of operation of this program. Although the term is over used, I consider this program to be user-friendly with all options displayed at each input point.

To use this program from tape type LOAD "BUDGET". The program is self-starting and upon a successful load you will be presented with a title page of sorts. You will then be asked whether you already have entered data or wish to enter a new budget. Assuming that a new budget is going to be used, you will then be asked for the number of items in the budget (up to a maximum of 13 items). A title for the program is then requested. This is the same title by which the program will be later saved (and must be restricted to 10 characters or less on the TS 2068). After a title is entered, the screen will go blank as the computer enters the FAST mode (on TS 1000 machines) and draws the budget display. After a few moments, the budget will appear with the title you have given displayed at the top, the item area blank, and a zero in each of the figure areas. At this time you will want to name your budget areas by using the "C" option (change data). You then select "I" (item) and choose the item number to be changed-number one is at the top. In changing data you may wish to number the budget areas for future changes, but keep in mind that the item area will automatically be reduced to seven characters. When the entry is satisfactory,

you will be returned to the main display.

Changing data in budget amount and amount spent is done in the same manner. New data entries in these areas cause all totals to automatically readjust themselves in a manner similar to a spreadsheet program. The plus or minus column will also readjust itself with each data change. If an amount that is too high is entered by accident in the amount spent area, never fear. To adjust this error, use the change data mode and enter the difference between the amount entered and the amount desired preceded by a minus (-) sign. All totals will readjust accordingly.

All in all PROJECT BUDGET has proven extremely useful to me in the handling of the financial aspects of small projects. I think that many others may also find it as useful to themselves.

PROJECT BUDGET is available on a cassette for the ZX-81, TS 1000, TS 1500, and TS 2068 computers for the price of $8.00 (including shipping) with this documentation. To order, send a check or money order to KA2LHO HAM HELPER SERIES, Kraig D. Pritts-KA2LHO, 3421 Oneida St., Chadwicks, NY 13319. Be sure to indicate the model of computer for which you wish the tape. New York State residents also please add appropriate sales tax.

NOTE: The listing here is from a TS 1000. Listing and operation for the TS 2068 is similar.

KA2LHO HAM HELPER SERIES
Kraig D. Pritts-KA2LHO
3421 Oneida St.
Chadwicks, NY 13319

HAM RADIO SOFTWARE
for
SINCLAIR COMPUTERS

==========
All programs written in BASIC for easy user mods and TS 1500 and Spectrum compatibility. Pay via check or money order-NYS add sales tax. Large SASE for complete list of programs and other miscellaneous goodies!
==========
When ordering please indicate on which computer model the program will be used (ZX81/TS1000/TS1500 or TS 2068/Spectrum).
==========

PROGRAM SAMPLES

10-10 FILE-N-SORT:random entry of 10-10 numbers with sorted ascending output.....$8.00

SUNRISE,SUNSET:calculate sunrise and sunset for any location in world.....$8.00

YAGI ANTENNA DESIGN:aids you in designing Yagi type antennas and shows diagram.....$8.00

NOVICE EXAM KIT:generates random FCC type Novice written exams--for practice or actual testing. 4 programs and 12 page booklet of documentation.....$20.00

CONVERSIONS:metric conversion of units of capacitance, inductance and frequency.....$8.00
==========
15 Ham programs in all PLUS 4 additional non-ham programs on scanners, budgeting, and music theory. Additional miscellaneous hardware items also listed. Send SASE for complete updated list.
==========
FREE QZX newsletter Index
Large SASE for details!
==========
CompuServe User ID #74676,3320

LISTING FOR PROJECT BUDGET
==========

```
  0 REM (C)1983 KRAIG D. PRITTS
-KA2LHO, 3421 ONEIDA STREET,
CHADWICKS, NY 13319
  20 GOTO 1160
  30 PRINT AT 21,0;"IS THIS OKAY
? (Y/N)
  40 LET A$=INKEY$
  50 IF A$="" THEN GOTO 40
  60 RETURN
  70 LET R(I)=(B(I)-S(I))
  80 LET TB=0
  90 LET TS=0
 100 FOR I=1 TO N
 110 LET TB=TB+B(I)
 120 LET TS=TS+S(I)
 130 LET TR=TB-TS
 140 NEXT I
 150 FOR P=1 TO 20
 160 NEXT P
 170 GOTO 260
 180 IF LEN Z$=0 THEN LET Z$=Z$+
" "
 190 IF LEN Z$=1 THEN LET Z$=Z$+
" "
 200 IF LEN Z$=2 THEN LET Z$=Z$+
" "
 210 IF LEN Z$=3 THEN LET Z$=Z$+
" "
 220 IF LEN Z$=4 THEN LET Z$=Z$+
" "
 230 IF LEN Z$=5 THEN LET Z$=Z$+
" "
 240 IF LEN Z$=6 THEN LET Z$=Z$+
" "
 250 RETURN
 260 REM **DISPLAY
 270 FAST
 280 CLS
 290 PRINT N$
 300 PRINT "
 310 PRINT "ITEM   $ BUDGET$ S
PENT+/- AMT"
 320 PRINT "
 330 FOR I=1 TO N
 340 PRINT I$(I);TAB 7;"$";B(I)
;TAB 16;"$";S(I);TAB 24;"$";
 350 IF R(I)<0 THEN PRINT TAB 25
;R(I)
 360 IF R(I)>0 THEN PRINT TAB 25
;"+";R(I)
 370 IF R(I)=0 THEN PRINT TAB 26
;R(I)
 380 NEXT I
 390 PRINT "=======$========$===
====$======="
 400 PRINT "TOTALS $";TB;TAB 16;
"$";TS;TAB 24;"$";
 410 IF TR<0 THEN PRINT TAB 25;T
R
 430 IF TR>=0 THEN PRINT TAB 25;
TR
 440 PRINT "
 450 SLOW
 460 PRINT AT 20,0;"""C"" TO CHA
NGE DATA;""P"" TO PRINT"
 470 PRINT AT 21,0;"""0"" TO SAV
E ON TAPE"
 480 GOSUB 40
 490 IF A$="C" THEN GOTO 530
 500 IF A$="P" THEN GOTO 1400
 510 IF A$="0" THEN GOTO 1250
 520 GOTO 480
 530 PRINT AT 20,0;"""I"" FOR IT
EM ; ""B"" FOR BUDGET ;"
 540 PRI"" AT 21,0;"""S"" FOR AM
OUNT SPEN""
 550 GOSUB 40
 560 IF A$="I" THEN GOTO 600
 570 IF A$="B" THEN GOTO 720
 580 IF A$="S" THEN GOTO 820
 590 GOTO 550
 600 PRINT AT 20,0;"WHICH ITEM N
UMBER DO YOU WISH TO"
 610 PRINT AT 21,0;"CHANGE?
 620 INPUT I
 625 IF I>N OR I<1 THEN GOTO 600
 630 CLS
 640 PRINT AT 3,6;"CHANGE ITEM "
;I;" FROM";AT 5,12;I$(I);AT 7,15
;"TO"
 650 INPUT Z$
 660 GOSUB 180
 670 PRINT AT 9,12;Z$(1 TO 7)
 680 GOSUB 30
 690 IF A$="N" THEN GOTO 630
 700 IF A$="Y" THEN LET I$(I)=Z$
(1 TO 7)
 710 GOTO 150
 720 PRINT AT 20,0;"TO WHICH ITE
M NUMBER DO YOU     WISH TO INSE
RT A BUDGET FIGURE?
 730 INPUT I
 735 IF I>N OR I<1 THEN GOTO 600
 740 CLS
 750 PRINT AT 3,0;"CHANGE THE BU
DGET FIGURE FOR";AT 5,0;I$(I);"
FROM ";B(I);" TO ";
 760 INPUT Z
 770 PRINT Z
 780 GOSUB 30
 790 IF A$="N" THEN GOTO 740
 800 IF A$="Y" THEN LET B(I)=Z
 810 GOTO 70
 820 PRINT AT 20,0;"TO WHICH ITE
M NUMBER DO YOU     WISH TO CHAN
GE AN AMOUNT?
 830 INPUT I
 835 IF I>N OR I<1 THEN GOTO 600
 840 CLS
 850 PRINT AT 3,0;"INSERT THE AM
OUNT SPENT ON ITEM";AT 5,0;I$(I)
;"-";
 860 INPUT Z
 870 PRINT Z
 880 GOSUB 30
 890 IF A$="N" THEN GOTO 840
 900 IF A$="Y" THEN LET S(I)=S(I
)+Z
 910 GOTO 70
 920 REM **INITIALIZATION
 930 CLS
 940 PRINT "NUMBER OF BUDGET ITE
MS?(13 MAX.)"
 950 INPUT N
 960 IF N>13 THEN PRINT "**MAXIM
UM OF 13 - TRY AGAIN**"
 970 IF N>13 THEN GOTO 950
 980 DIM I$(N,7)
 990 DIM B(N)
1000 DIM S(N)
1010 DIM R(N)
1020 FOR I=1 TO N
1030 LET I$(I)="
1040 LET B(I)=0
1050 LET S(I)=0
1060 LET R(I)=0
1070 LET TB=0
1080 LET TS=0
1090 LET TR=0
1100 PRINT
1110 PRINT "WHAT WILL YOU CALL T
HIS PROGRAM?"
1120 INPUT N$
1130 IF LEN N$>32 THEN PRINT "TO
O LONG, TRY AGAIN."
1140 IF LEN N$>32 THEN GOTO 1120
1150 GOTO 260
1160 REM **NEW OR OLD BUDGET
1180 PRINT AT 12,0;"  IF YOU ARE
 WORKING WITH DATA","ALREADY IN
THE PROGRAM THEN ","PRESS ""C""
TO CONTINUE THE","BUDGET."
1190 PRINT
1200 PRINT "   IF YOU WISH TO ST
ART A NEW","BUDGET THEN PRESS ""
N"".."
1210 GOSUB 40
1220 IF A$="C" THEN GOTO 260
1230 IF A$="N" THEN GOTO 920
1240 GOTO 1210
1250 REM **SAVE
1260 CLS
1270 PRINT ,,"  REMEMBER THAT TH
IS PROGRAM","WILL BE SAVED BY TH
E NAME YOU","ENTERED EARLIER."
1280 PRINT
1290 PRINT "  IN THIS CASE THE N
AME WAS:",N$;"."
1300 PRINT
1310 PRINT "  TO SAVE THIS PROGR
AM YOU ONLY","NEED TO START THE
RECORDER AND","THEN PRESS ENTER.
"
1320 INPUT A$
1330 CLS
1340 SAVE N$
1350 GOTO 1430
1360 CLS
1370 SAVE "BUDGET"
1375 SLOW
1380 GOTO 920
1390 STOP
1400 PRINT AT 20,0;"
                    "
1410 COPY
1420 GOTO 460
1430 CLS
1435 SLOW
1440 PRINT AT 0,7;"
";AT 1,7;"   T'S 1000   ";A
T 2,7;"
";AT 3,7
;" PROJECT BUDGET ";AT 4,7;"
";AT 6,14;"BY";AT 8,7
;"KRAIG  D. PRITTS"
1445 PRINT AT 21,0;"(C) 1983, KR
AIG D. PRITTS-KA2LHO"
1450 FOR P=1 TO 50
1460 NEXT P
1470 GOTO 1160
```

FOR SALE (MAYBE)

Collins 75S3B, 32S3, 516F2 complete ham station (with a spare set of almost all of the tubes). Millen 92200 transmatch. R-390A general coverage receiver with SSB product detector. I'm considering 'going solid-state' due to space limitations, but may not part with my favorites, which all work FINE. MAKE OFFERS to: Bo Barry, W4GHV, 1967 Defiance Ave, Las Cruces, NM, 88001. 505-523-2063.

PROJECT BUDGET TITLE SCREEN

```
   T'S 1000
PROJECT BUDGET
```

BY

KRAIG D. PRITTS

IF YOU ARE WORKING WITH DATA ALREADY IN THE PROGRAM THEN PRESS "C" TO CONTINUE THE BUDGET.

IF YOU WISH TO START A NEW BUDGET THEN PRESS "N".

(C) 1983, KRAIG D. PRITTS-KA2LHO

BUDGET DISPLAY

BUDGET

ITEM	$ BUDGET	$ SPENT	+/- AMT
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
	$0	$0	0
TOTALS	$0	$0	0

"C" TO CHANGE DATA;"P" TO PRINT
"0" TO SAVE ON TAPE

SAVE TO TAPE INSTRUCTIONS

REMEMBER THAT THIS PROGRAM WILL BE SAVED BY THE NAME YOU ENTERED EARLIER.

IN THIS CASE THE NAME WAS: BUDGET.

TO SAVE THIS PROGRAM YOU ONLY NEED TO START THE RECORDER AND THEN PRESS ENTER.

Listing for TYPE 2068

```
  1 REM This program was ori-
ginally written by R. J. Lees-
W3ZON for the Timex/Sinclair
1000 computers and published in
the May 1983 issue of QZX.  This
modification was written for the
Timex/Sinclair 2068 computer by
Kraig D. Pritts-KA2LHO and makes
use of some of the expanded cap-
abilities of this machine.

      Modifies--Updated TYPE Pgm
    This program has been printed
in QZX before, but had some
omissions. A newcomer,C Fair-
bank lives in this same local-
ity and brought it to our
attention. He wrote to Kraig
Pritts who responded in kind.
Chuck added some interesting
bells and whistles, like a
title centering, edit numbers,
color changes, and sound
effects--foolin' around stuff.
Then he gave me Kraig's and
his listing and a tape. Chuck
will copy it on a tape for you
if you send him a blank tape
plus postage,etc.C.Fairbank,
3102 Risner,Las Cruces,NM 88001
505-522-1649--Here 'tis--


  2 REM Type RUN ENTER to start
        or restart a new page.
  3 REM To fix errors, use up
    or down arrows,or the space
    bar for a right arrow, or
    the DELETE function as the
    left arrow.
  4 REM *TO EDIT* move  curser
    out to the left margin with
    DELETE key,press C/S-EDIT
    keys and follow directions.
  5 REM To have cursor start
    at the extreme left corner,
    change c to =0.(Screws up
    EDIT routine.)
  7 REM The CHR$ numbers and
    their meaning is found in
    Appendix B, page 240 of
    the USER MANUAL.
  8 REM To fool around with the
    program itself, use the
    LIST ## Function to get
    around in the program.
    Edit in the normal way
    using EDIT and arrows.
 10 REM **PRINT-OUT** on the
    line printer occurs auto-
    matically when the cursor
    runs out of screen, or
    you type a plain black
    (symbol shift) colon(:).
    To change colon,see REM 7.
 12 PRINT AT 0,2;"CENTERED TITL
E?(y/n)": INPUT c$: CLS : IF c$=
"y" THEN GO SUB 800: IF c$="n" T
HEN GO TO 13
 13 BORDER 4
 14 CLS
 15 LET l=0: LET n=0
 20 LET c=1
 30 FLASH 1: PRINT AT n,c;"■":
FLASH 0
 50 IF INKEY$<>"" THEN GO TO 50
 60 IF INKEY$="" THEN GO TO 60
 80 PRINT AT n,c;INKEY$
 90 IF INKEY$=CHR$ 13 THEN GO T
O 400
 100 IF INKEY$=CHR$ 8 THEN GO TO
 400
 102 IF INKEY$=CHR$ 10 THEN GO T
O 450
 104 IF INKEY$=CHR$ 11 THEN GO T
O 475
 110 IF INKEY$=CHR$ 12 THEN GO T
O 500
 120 IF INKEY$=CHR$ 7 AND c=0 TH
EN GO TO 900
 125 IF INKEY$=CHR$ 58 THEN GO T
O 770
 130 LET c=c+1
 140 IF c=32 THEN GO TO 410
 150 IF c<27 THEN FLASH 1: PRINT
 INK 3;AT n,c;"■": FLASH 0
 160 IF c=27 THEN PRINT AT n,c;"
5": BEEP .05,12
 170 IF c=28 THEN PRINT AT n,c;"
4"
 180 IF c=29 THEN PRINT AT n,c;"
3"
 190 IF c=30 THEN PRINT AT n,c;"
2"
 200 IF c=31 THEN PRINT AT n,c;"
1"
 210 GO TO 40
 300 PRINT AT n,c;" "
 320 GO TO 130
 400 PRINT AT n,c;" "
 410 LET l=l+1
 415 IF l=20 THEN SOUND 0,104;1,
0;8,13;7,62: PAUSE 12: SOUND 0,2
09,1,0;8,13;7,62: PAUSE 12: SOUN
D 0,52;1,0;8,13;7,62: PAUSE 20:
SOUND 0,0;1,0;2,0;3,0
 420 IF L=21 AND c=30 THEN GO TO
 770
 430 LET n=n+1: GO TO 20
 450 PRINT AT n,c;" "
 455 LET l=l+1
 460 IF L=21 AND c=31 THEN GO TO
 770
 465 LET n=n+1: GO TO 30
 475 PRINT AT n,c;" "
 480 LET l=l-1
 485 LET n=n-1: GO TO 30
 500 PRINT AT n,c;" "
 510 IF c=0 THEN GO TO 530
 520 LET c=c-1
 530 GO TO 30
 600 INPUT el
 610 LET n=0+el
 620 LET l=l-1
 625 INPUT c
 630 GO TO 30
 710 IF INKEY$<>"" THEN GO TO 71
0
 720 IF INKEY$="" THEN GO TO 720
 740 IF INKEY$=CHR$ 7 THEN GO TO
 900
 750 IF INKEY$=CHR$ 58 THEN GO T
O 770
 760 GO TO 700
 770 COPY
 775 FLASH 1
 780 PRINT AT 21,0;" Press 'c' t
o  clr screen & cont. "
 782 LET a$=INKEY$
 784 IF a$="" THEN GO TO 782
 786 IF a$="c" OR a$="C" THEN FL
ASH 0: CLS : GO TO 12
 788 GO TO 782
 800 PRINT AT 0,3;"ENTER one lin
e TITLE TO BE  CENTERED": INPUT
 t$: CLS : PRINT TAB ((32-LEN t$
)/2+1);t$ : LET l=1: LET n=1: GO
 TO 20
 900 PRINT AT 0,0;"0": PRINT AT
4,0;"4": PRINT AT 8,0;"8": PRINT
 AT 12,0;"2": PRINT AT 16,0;"6":
 PRINT AT 20,0;"0"
 910 PRINT AT 21,0;"Enter line n
o?": INPUT em
 912 OVER 0: PAUSE 30: PRINT AT
21,0;"                "
 920 OVER 0: PAUSE 30: PRINT AT
0,0;" ": PRINT AT 4,0;" ": PRINT
 AT 8,0;" ": PRINT AT 12,0;" ":
PRINT AT 16,0;" ": PRINT AT 20,0
;" "
 922 LET n=0+em
 924 LET l=l-1
 925 PRINT AT 21,0;"   3   6   9
2   5   8   1   4   7   0"
 927 OVER 1: PAUSE 30: PRINT AT
21,0;"col no ?": INPUT c: GO TO
928
 928 OVER 0: PAUSE 30: PRINT AT
21,0;"
"
 929 OVER 0: PAUSE 30: PRINT AT
21,0;"                "
 930 GO TO 30
 950 SAVE "type2" LINE 1
```

COMPUTING THE EQUIVALENT VALUES OF PARALLEL RESISTORS OR SERIES CAPACITORS

BY E. ALLEN BROWN, WA3FYZ

WHEN I WAS A STUDENT STUDYING BASIC ELECTRONICS, ONE OF THE THINGS THAT I USED TO HATE WAS CALCULATING THE EQUIVALENT VALUES OF PARALLEL RESISTORS OR SERIES CAPACITORS (PARTICULARLY CAPACITORS).

THIS PROGRAM TAKES SOME OF THE DRUDGERY OUT OF DEALING WITH VERY LARGE OR VERY SMALL NUMBERS IN COMPLEX FRACTIONS.

THE BASIC FORMULA IS THE FAMILIAR

$$RT = \frac{1}{\frac{1}{R1} + \frac{1}{R2} + \frac{1}{R3} + \ldots}$$

WHERE C REPLACES R FOR CAPACITORS.

THIS PROGRAM IS MENU DRIVEN, USER FRIENDLY AND ONCE SAVED, IS SELF- STARTING.

WHEN WORKING WITH RESISTORS, THE ENTIRE VALUE OF EACH RESISTOR MUST BE ENTERED. IN OTHER WORDS, THE PROGRAM DOES NOT RECOGNIZE K FOR KILO OR M FOR MEG.

WHEN WORKING WITH CAPACITORS, HOWEVER, YOU ARE ASKED TO ENTER THE VALUE OF THE CAPACITOR AND THEN A SECOND PROMPT ASKS THE UNITS, EITHER MICROFARADS OR PICOFARADS.

FOR THOSE OF YOU WHO OFT TIMES FIND YOURSELF WITH A HAND FULL OF RESISTORS AND ALL OF THEM THE WRONG VALUE, OR FOR THE STUDENT WHO WOULD NORMALLY PLUG AND CHUG ON THE HANDHELD CALCULATOR, THIS PROGRAM WILL COME IN VERY HANDY.

```
 10 REM   COMPUTING PARALLEL
 20 REM  RESISTANCES OR SERIES
 30 REM      CAPACITANCES
 40 REM
 50 REM
 60 REM
 70 REM
 80 REM
 90 REM
100 REM
110 REM
120 REM
130 REM E. ALLEN BROWN, WA3FYZ
140 REM    8645 TOWER DRIVE
150 REM LAUREL, MARYLAND 20707
160 REM
170 REM
180 REM
190 REM     29 APRIL, 1985
200 REM
210 REM
220 REM   ENTER RUN TO BEGIN
300 PRINT "THIS PROGRAM COMPUTE
S THE EQUIV-"
310 PRINT "ALENT RESISTANCE OF
PARALLEL"
320 PRINT "RESISTORS OR THE EQU
IVALENT CAP-"
330 PRINT "ACITANCE OF SERIES C
APICITORS."
340 PRINT AT 20,3;"PRESS ANY KE
Y EXCEPT BREAK"
350 PRINT AT 21,11;"TO BEGIN"
360 PAUSE 5E4
370 CLS
380 PRINT AT 7 3;"WOULD YOU LIK
E TO COMPUTE:"
390 PRINT
400 PRINT
410 PRINT "1) EQUIVALENT VALUE
OF PARALLEL    RESISTORS"
420 PRINT
430 PRINT TAB 11;"OR"
440 PRINT
450 PRINT "2) EQUIVALENT VALUE
OF SERIES      CAPACITORS?"
460 INPUT Y
470 IF Y<1 OR Y>1 AND Y<2 OR Y>
2 THEN GOTO 460
480 FAST
490 GOTO Y*1000
1000 REM RESISTOR SUBROUTINE
1010 CLS
1020 LET RT=0
1030 PRINT AT 9,1;"ENTER THE NUM
BER OF RESISTORS:"
```

```
1040 INPUT N
1050 IF N<1 THEN GOTO 1040
1070 DIM R(N)
1080 FOR A=1 TO N
1090 CLS
1100 PRINT AT 9,4;"ENTER THE VAL
UE OF R(";A;")"
1110 INPUT R(A)
1120 IF R(A)<0 THEN GOTO 1110
1130 LET RT=RT+1/R(A)
1150 NEXT A
1160 LET RQ=1/RT
1170 CLS
1180 PRINT AT 8,2;"THE EQUIVALEN
T RESISTANCE IS:   ";RQ;" OHMS."
1190 PRINT AT 20,3;"PRESS ANY KE
Y EXCEPT BREAK"
1200 PRINT AT 21,6;"TO COMPUTE A
NOTHER"
1210 PAUSE 5E4
1220 GOTO 370
2000 REM CAPACITOR SUBROUTINE
2010 CLS
2020 LET CT=0
2030 PRINT AT 9,0;"ENTER THE NUM
BER OF CAPACITORS"
2040 INPUT N
2050 IF N<1 THEN GOTO 2040
2070 DIM C(N)
2080 FOR A=1 TO N
2090 CLS
2100 PRINT AT 9,4;"ENTER THE VAL
UE OF C(";A;")"
2110 INPUT C(A)
2120 IF C(A)<0 THEN GOTO 2110
2130 CLS
2140 PRINT AT 8,0;"IS THE VALUE
OF THE CAPACITOR IN"
2150 PRINT AT 10,7;"1) MICROFARA
DS?"
2160 PRINT AT 12,7;"2) PICOFARAD
S?"
2180 INPUT Z
2190 IF Z<1 OR Z>1 AND Z<2 OR Z>
2 THEN GOTO 2180
2200 IF Z=1 THEN LET C(A)=C(A)*1
E-6
2210 IF Z=2 THEN LET C(A)=C(A)*1
E-12
2220 LET CT=CT+1/C(A)
2230 NEXT A
2240 LET CQ=1/CT
2250 CLS
2260 PRINT AT 8,2;"THE EQUIVALEN
T CAPACITANCE IS:"
2270 LET CQ=CQ*1E6
2280 PRINT AT 10,2;CQ;" MICROFAR
ADS OR"
2290 LET CQ=CQ*1E6
2300 PRINT AT 12,2;CQ;" PICOFARA
DS"
2310 PRINT AT 20,3;"PRESS ANY KE
Y EXCEPT BREAK"
2320 PRINT AT 21,6;"TO COMPUTE A
NOTHER"
2330 PAUSE 5E4
2340 GOTO 370
9980 SAVE "EQUIV-R-C.BA"
9990 RUN
```

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WANTED: UNCLASSIFIED ADS for publication in QZX. Cost is 1 cent for each keystroke (characters, etc.). Payment must be included with order. This is an excellent way to sell your program or unwanted equipment, ask for help, or find a specific program. Send your ad with payment to QZX, 2025 O'Donnell, Las Cruces, NM 88001.

WANTED: Micro Ace Computer. Working condition. Edward L Gadtke, 1602 Wookluck Ave, Louisville, KY 40205.

FOR SALE: A few 8086 microprocessors at $15 each postpaid. Alex. F. Burr, 2025 O'Donnell, Las Cruces, NM 88001.

Editor's Doings
W4GHV

I want to thank Kraig, KA2LHO for providing all the goodies this month! Without them, I would have had to 'send the wife on ahead' while I dug around for info for the June issue. Alex deserted me for some sort of scientific project in 'Bangle-a-dish', and left just after their horrible storm disaster.

Kraig send some additional details about Timex/Sinclair activity on CompuServe. There is a meeting on Wed nites at 10PM Eastern time with a lot of useful info. It can be accessed at the ! Prompt by entering GO PCS-54. Several other interesting messages & programs can also be found there. I plan to start experimenting with CompuServe again, now that I have a 1200 baud modem. I gave up earlier because of the confusing menus, etc.

KA2LHO HAM HELPER SERIES

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Microdrive Modifications and Users Tips
by
Kraig D. Pritts-KA2LHO
for
Pro/File 2068
by
Thomas B. Woods

For those who have purchased and made use of Pro/File 2068 by Thomas Woods, you are to be considered a wise person and deserve all of the rights and benefits that go with the title. Seriously, the program in its original form for the 2068 was good, but there were a few little things which were annoying. If you have made all of the enhancements recommended in the big 100+ page manual recently published by Mr. Woods, the program becomes fantastic! The purpose of this article is to add a few additional modifications to allow use of the new A & J Microdrive mass storage system.

These mods allow you, when loading or saving data files, to choose between the cassette system or the microdrive. If you are using the microdrive, you will also be prompted to select your choice of file numbers. In addition, the special microdrive @ flag will be automatically inserted when loading, saving and verifying your files. Your data files are named in the usual cassette manner for either storage system. This also provides for easy transfer of files between cassette and microwafer as well as easy back-up copies for important files. Verification on the microdrive system is automatic and for the cassettes is done in the same manner as pointed out in the big book.

There are two drawbacks to the use of this microdrive modification. First, you can only use nine files per microwafer, and cannot make use of the tricks pointed out in the drive manual. The file number prompt expects a number! This is not a serious drawback, however, due to the size of the file that is always saved. There is not room for nine files even on the longest microwafer available.

The second drawback to these mods applies only if you already have a good number of files set up on Pro/File 2068. The changes must be made to each file loaded from cassette that has not yet been modified. The reason for this is that the BASIC portion of the program is saved along with the data each

time. Each file that is saved after you have changed your master tape, however, will have the mods saved also.

Two additional tips on using Pro/File 2068. In his book, Mr. Woods indicates on page 109 that recovering from an error in math tallies is done by typing LET Y$="":GO TO 1 and ENTER. This will also allow you to return to the main menu with no data loss from any type of BREAK in this program. After making these or any other mods to the BASIC of Pro/File you must reenter the program in the above manner. Do not use RUN or RUN 9996 or all data will be cleared from the file. A final tip enables you to have the computer automatically go into CAPS SHIFT mode upon loading. In line 9997, you see the phrase POKE 23658,8. This will cause and auto-CAPS SHIFT mode and let you free from remembering to hit SHIFT for each of the commands.

I have included all of the enhancements suggested by Mr. Woods except the full-size printer driver In addition, I have also reduced the memory size to 27,000 bytes as also suggested. With this configuration, there is ample room to add my modifications. I have not tried them in the original memory configuration, but experimentation will tell the story there.

These mods, coupled with those enhancements offered by Mr. Woods and the use of the Microdrive system, transform a program which was previously good into one which is now practically unsurpassed for the TS 2068.

FIGURE 1

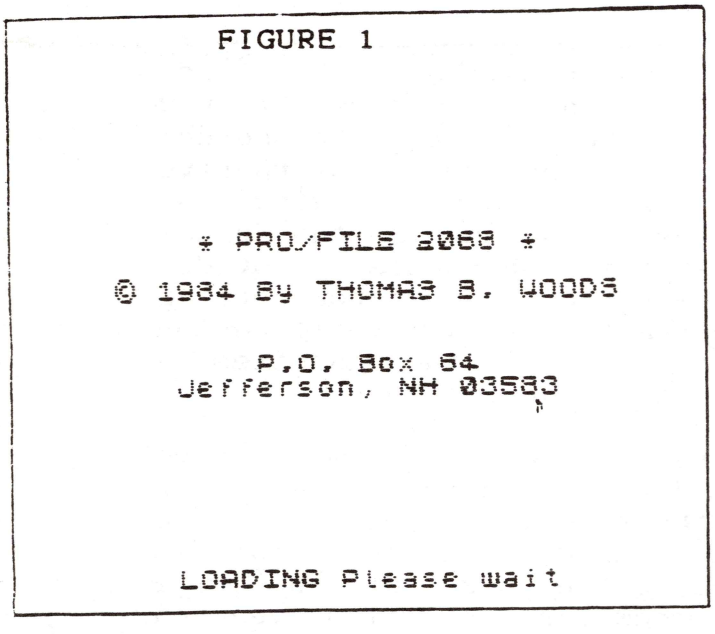

FIGURE 2

```
  40>PRINT AT 7,4; INK 7;"© 1984
 By THOMAS B. WOODS";AT 10,11; I
NK 6;"P.O. Box 64";AT 11,7; INK
 6;"Jefferson, NH 03583";AT 19,7;
 PAPER 1; INK 6; FLASH 1;"LOADIN
G"; FLASH 0; INK 6; PAPER 0;" Pl
ease wait";AT 0,0: LOAD "@p/f"CO
DE 63488,2048
  50 LOAD "@p/file"
```

FIGURE 3

```
 107>IF X$="SAVE" THEN ON ERR GO
 TO 8000: INPUT "SAVE TO [T]APE
OR [M]ICRODRIVE? ";B$: IF B$<>"T
" THEN GO TO 109
 108 IF X$="SAVE" THEN ON ERR GO
 TO 8000: SAVE F$ LINE 1: PRINT
AT 20,0;"REWIND TO VERIFY/BREAK
TO STOP": VERIFY F$: GO TO 1
 109 IF X$="SAVE" THEN ON ERR GO
 TO 8000: INPUT "FILE NUMBER? ";
E: SAVE "@"+STR$ E+","+f$ LINE 1
: PRINT AT 20,0;"VERIFYING.....
/BREAK TO STOP": VERIFY "@"+F$:
GO TO 1

5505>CLS : INPUT "ARE YOU LOADIN
G FROM [T]APE OR [M]ICRODRIVE?
",B$: IF B$="T" THEN GO TO 5510
5506 IF B$="M" THEN GO TO 5511
5507 GO TO 5505
5511 PRINT AT 16,1; PAPER 5; INK
 0;"WHAT FILE NAME DO YOU WISH
  ";AT 17,1;"TO LOAD■";: INPUT F
$: PRINT f$: LOAD "@"+F$: GO TO
1

9997>PRINT AT 19,2; INK 7;"Press
 ""C"" to CREATE a new file   or
 ""L"" to LOAD an existing one";
POKE 23658,8: INPUT y$: PRINT AT
 19,0;D$(100 TO 164): IF y$="L"
THEN GO TO 5505
```

Pro/File 2068 Microdrive Modification Prodcedures

by
Kraig D. Pritts-KA2LHO
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---

1. Format a 10' (minimum) microwafer (@1,+) which will become your master wafer.

2. Load "pro/file" from your master (or enhanced) tape in the normal manner.

3. When you see the "title screen" as shown in figure 1, press BREAK.

4. Enter INK 7 and ENTER, then LIST the program.

5. Make changes in lines 40 and 50 as shown in figure 2.

6. SAVE "@1,profile"LINE 1.

7. Clear the computer (NEW and ENTER).

8. Rewind your tape and again LOAD "pro/file" from your master in the normal manner. This time allow a complete load to take place.

9. When you are asked to "Create a new file or Load an existing one" press (SHIFT) DELETE and ENTER, then (SYMBOL SHIFT) STOP and ENTER.

10. SAVE "@2,p/f"CODE 63488,2046.

11. After the save is complete, enter the following commands: INK 7 (enter), LIST 107 (enter), and at the scroll prompt enter n.

12. Refer to the EDITing procedures in the 2068 Users Manual and change or add all lines shown in figure 3.

13. When this is completed, type CLEAR (ENTER), and then, SAVE "@3,p/file"LINE 9996.

14. Type VERIFY "@" to see that all three programs have been saved to the wafer.
    You should see-program: @profile
    bytes:@p/f
    program: @p/file
    Press BREAK to stop the wafer from displaying the titles.

15. To load the entire program from the wafer simply enter LOAD "@profile".

73, W4GHV & K5XY

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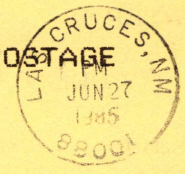
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